

Appl. No. 10/807,851

Response dated February 23, 2006

Reply to Office Action of November 23, 2005

Amendments to the Specification

Please replace paragraph [0021] on Page 6 of the specification as filed with the replacement paragraph set out below.

[0021] Figures 2a and 2b show a cross section of reactor 30 of Figure 1. Figures 2a and 2b both show the tendency for the gas and slurry to have a greater upward flow in the central region and a greater downward flow at the wall regions 25 of the reactor. Figures 2a and 2b show a velocity profile, represented by lines 45, in a gas agitated reactor respectively ~~without~~ and ~~without~~ internal structures. Line 35 represents a baseline value of zero or no net flow in any direction. The area above line 35 represents a positive or upward flow and below line 35 represents negative or downward flow. As shown, the positive area under the curve is greater in the central region of the reactor and the negative area is greater near the walls 25 of reactor 30. The internal structures tend to flatten the velocity profile (Figure 2b) by reducing the degree of backmixing. It should be appreciated that Figures 2a and 2b are not intended to limit the present invention to the particular reactor or to the exact flow distribution shown. Figures 2a and 2b are merely illustrative of the effect of internal structures on the overall velocity profile of a gas agitated multiphase reactor.

Please replace paragraph [0030] on Page 10 of the specification as filed with the replacement paragraph set out below.

[0030] Figure 8 shows a cross section of a multiphase reactor with internal heating or cooling tubes 320 and internal tubular structures 300 with walls 310 permeable to gas/liquid such that during operation the solid phase will be retained outside said walls 310. Figure 9 shows a cross section of a multiphase reactor with internal heating or cooling tubes 420 and internal tubular structures 400 with walls 410 permeable to gas/liquid and with solid phase retained inside said walls 410. Figure 10 shows a cross section of a multiphase reactor with repeating parallel internal structures 500 with walls ~~510-520~~ permeable to gas/liquid. The parallel internal

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structures create parallel zones ~~520~~510. These 3 embodiments in Figures 8-10 have the similar hydrodynamic advantage of the multiple smaller reaction regions (in terms of total reactor inner diameter), and in addition, allow the liquid/gas to permeate through the walls of the internal structures thereby separating the products and reactants from the solid particles present in the slurry.